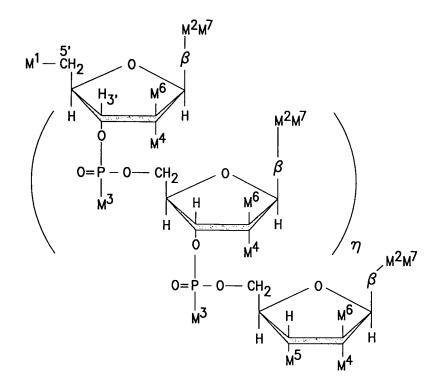


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 $\eta = 1-50$ M=H, OH, XR, Halogen, N₃

FIG. IA



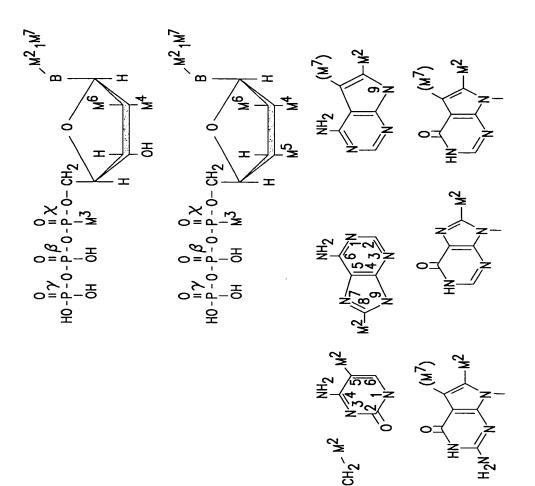
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	×1	M2	M ³	M5
Type Ia (base modified DNA)	Ю	XR/Hal	Ю	т
Type Ib (base modified RNA)	Ю	XR/Hai	Ю	Ю
Type IIa (5'– modified DNA)	XR/Hal	т	НО	т
Type IIb (5'– modified RNA)	XR/Hal	т	НО	Ю
Type $III (3'-modified)$	Ю	т	НО	XR/Hal
Type IVa (P- modified DNA)	Ю	Ŧ	XR	Ŧ
Type IVb (P- modified RNA)	Ю	Ŧ	XR	Ю

FIG. IB



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0

Nucleoside Triphosphate Elongators:

Nucleoside Triphosphate Terminators:

FIG. 2A



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	M ²	M ³	M ⁴	М5
Type A (DNA- Termination)	XR	НО	π	Ŧ
Type B (DNA- Termination)	т	НО	т	XR
Type C (DNA- Termination)	т	XR	т	Ŧ
Type D (RNA- Termination)	XR	НО	Ю	т
Type E (RNA- Termination)	т	Ю	Ю	XR
Type F (RNA- Termination)	т	XX	Ю	н

FIG. 2B



m=0, 1-200r=1-20

X	R
-0-	–(СН ₂ СН ₂ О) _т –СН ₂ СН ₂ –ОН
	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-0-С-(СН ₂) _г -С-О-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
–0–C–(CH ₂) _r –C–0– – – – – – – – – – – – – – – – – – –	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-NH-C-/-C-NH-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
Ő	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-NH-C-(CH ₂) _r -C-O-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
ÖÖ	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-NH-C-NH-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
Ŝ	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-0-P-0-Alkyl I O	–(сн ₂ сн ₂ о) _т –сн ₂ сн ₂ –он
Ó,	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-0-S02-0-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
-0-C-CH ₂ -S-	–(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –ОН
	or –(CH ₂ CH ₂ O) _m –CH ₂ CH ₂ –O–Alkyl
-N S-	
s-N S-	$-(CH_2CH_2O)_m$ $-CH_2CH_2$ $-OH$
	or $-(CH_2CH_2O)_m$ $-CH_2CH_2 - O - Alkyl$
	$-(CH_2CH_2O)_m$ $-CH_2CH_2$ $-OH$
	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl
NH	-(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -OH
	or -(CH ₂ CH ₂ O) _m -CH ₂ CH ₂ -O-Alkyl

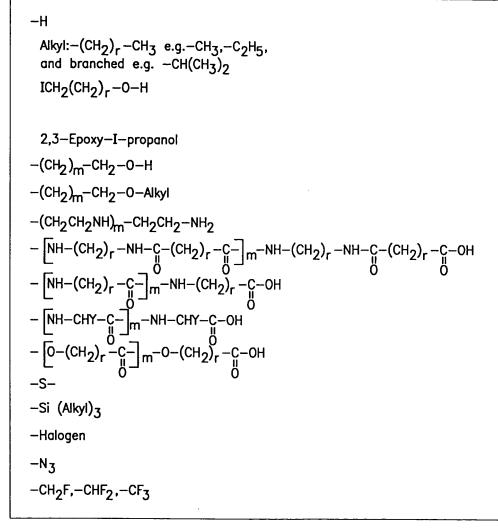
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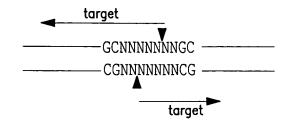
REPLACEMENT SHEET Heller Ehrman White & McAuliffe, LLP Sheet 6 of 18 Title: Solid Phase Sequencing of Biopolymers Applicants: Cantor *et al*, Docket No. 25491-2403D Serial No. 09/395,409, Filing Date: September 14, 1999



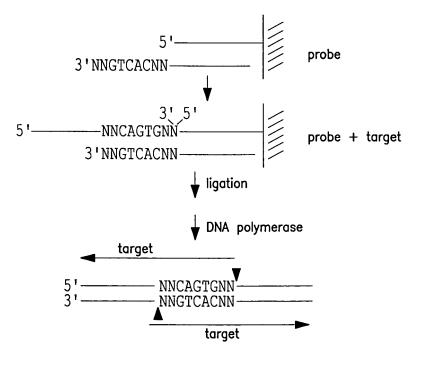
m= 0, 1-200r = 1-20



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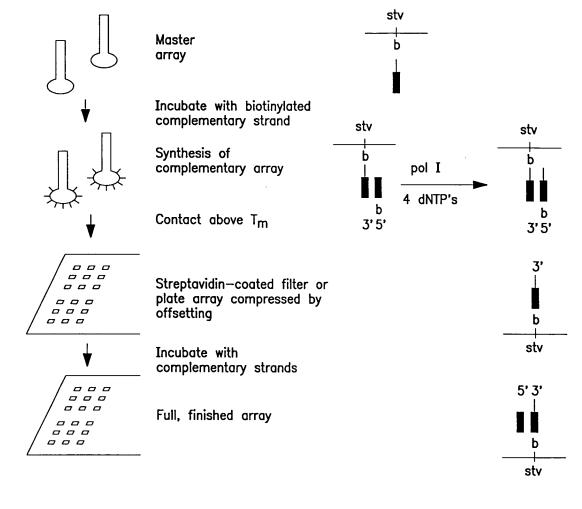


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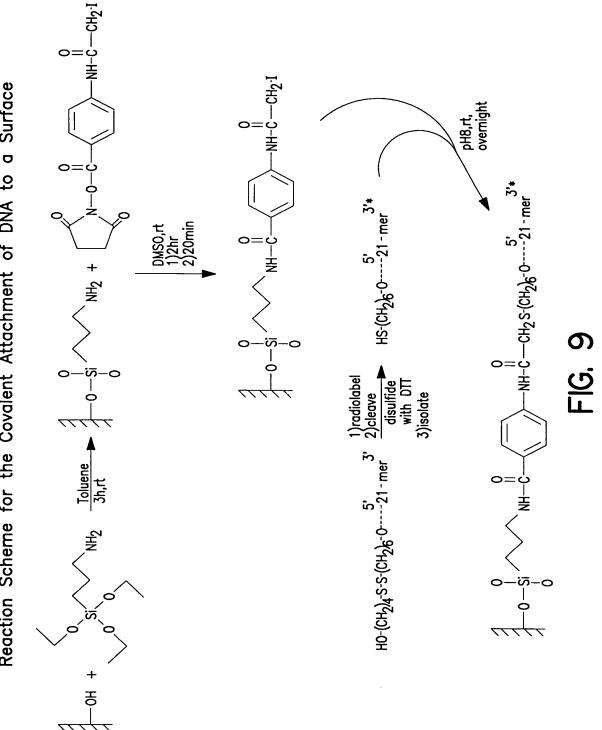
Nucleic Acid Structure	Calculated n= 8	T _m (°C, 7	average ba 6	se compos 5	ition)
	38	33	25	15	
` <u> </u>	33	25	15	3	
	25	15	3	-14	
I	51	46	40	31	
/′	46	40	31	21	
<u>`</u>	40	31	21	11	

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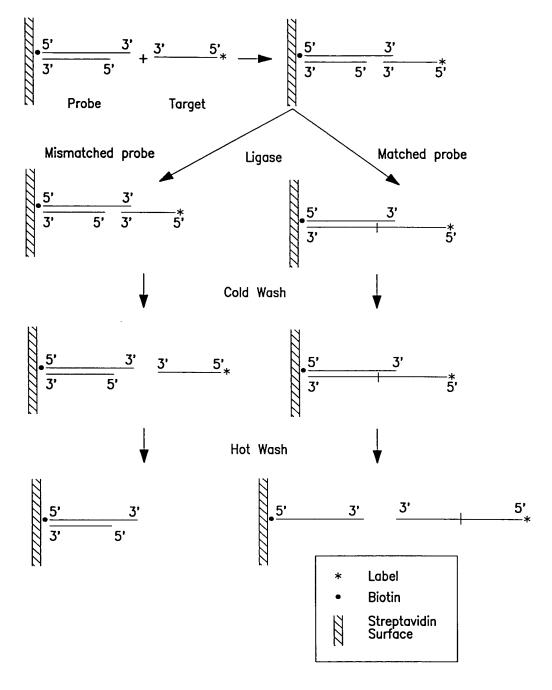


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Reaction Scheme for the Covalent Attachment of DNA to a Surface

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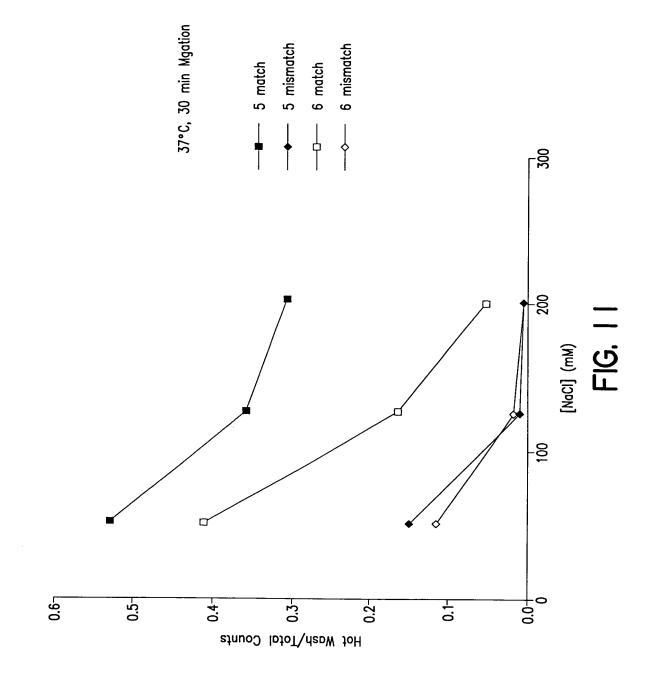


Probe and target annealed

FIG. IO



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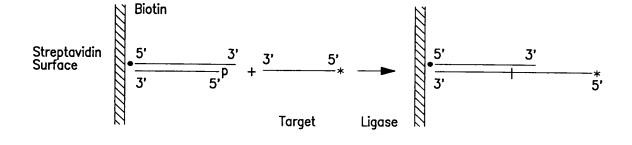


FIG. I2A

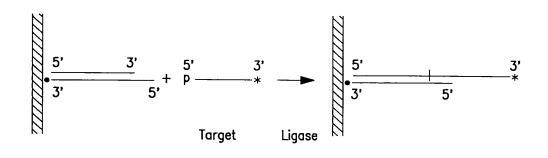
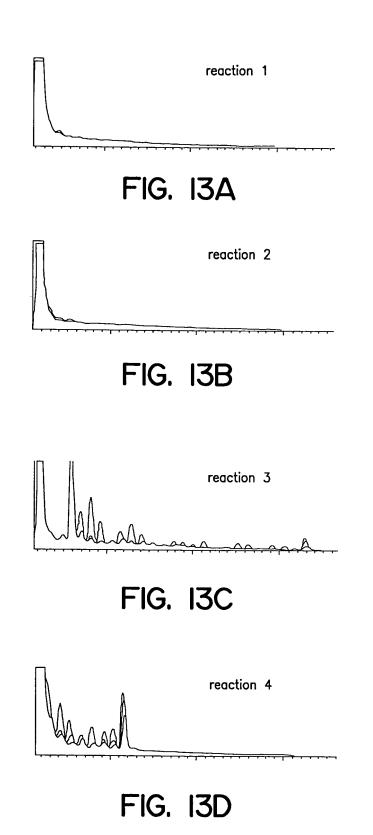


FIG. I2B

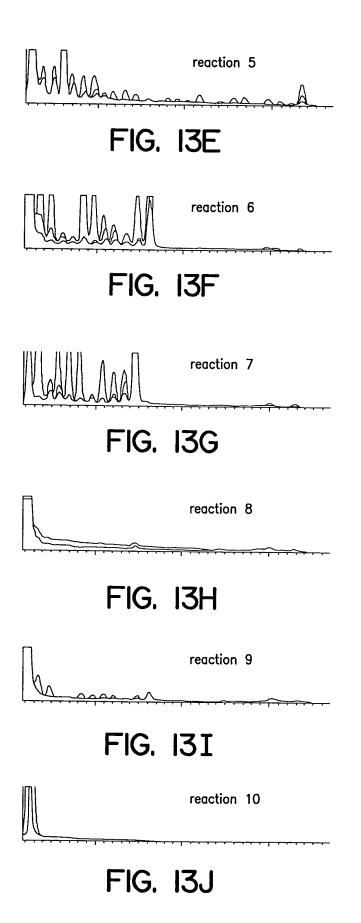


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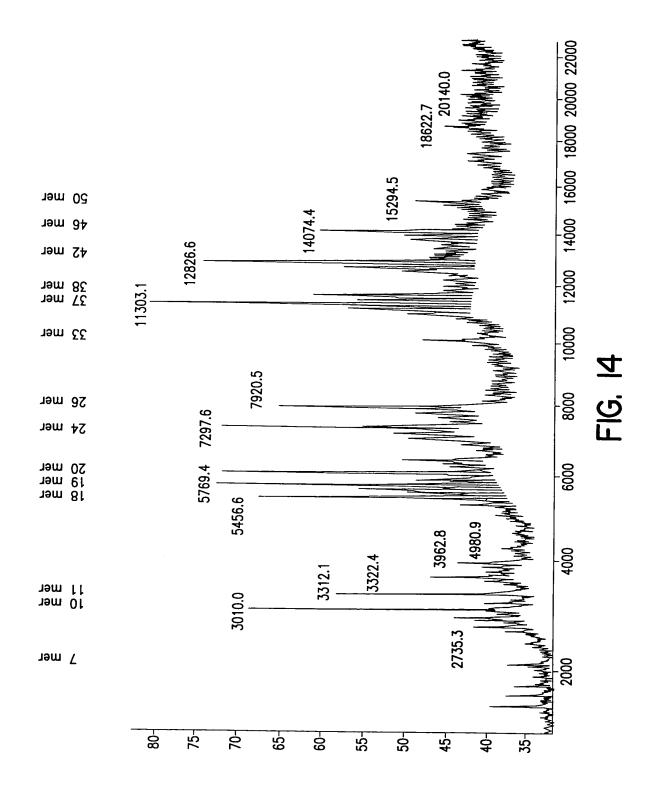
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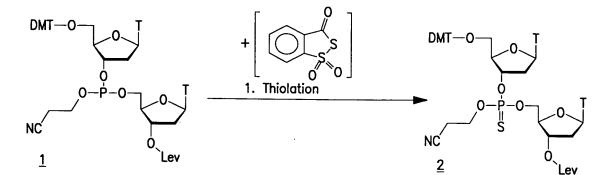


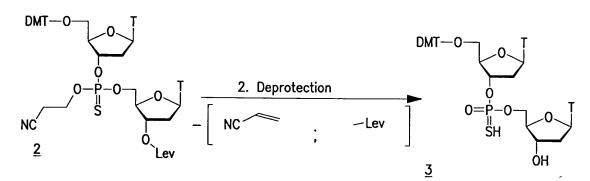
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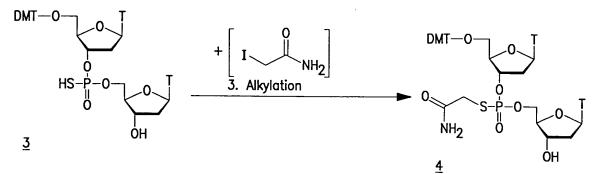


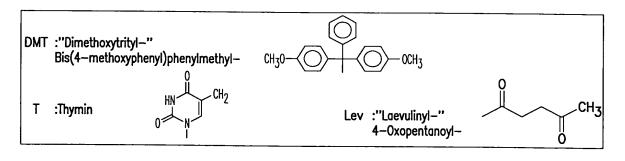


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